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## Taxonomic Position of *Acanthomysis quadrispinosa* and Establishment of a New Genus, *Notacanthomysis*, for *A. hodgarti* and *A. laticauda* (Crustacea: Mysidacea: Mysidae)

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The generic assignment of *Acanthomysis quadrispinosa* Nouvel, 1965, which was later placed in *Acanthomysis* s. s. by Holmquist, is confirmed. A new genus, *Notacanthomysis*, is established for two known species, *Acanthomysis hodgarti* (W. M. Tattersall, 1922) and *A. laticauda* Liu and Wang, 1980, which are redescribed. The new genus is characterized by the form and armature of the fourth pleopod of the male and the telson.

**Key Words:** Mysidacea, *Acanthomysis* s. s., *Notacanthomysis* gen. nov.

### Introduction

Holmquist (1979, 1980, 1981a, 1981b) recognized the genus *Acanthomysis* Czerniavsky, 1882 to be “heterogenous”, and she redefined it through a detailed examination of the type species, *Acanthomysis longicornis* (H. Milne-Edwards, 1837). According to her, six species belong to the true *Acanthomysis* (*Acanthomysis* s. s.). Based on her examination of the North American “*Acanthomysis*” species, she established six genera: *Alienacanthomysis* for *A. macropsis* (W. M. Tattersall, 1932); *Disacanthomysis* for *A. dybowskii* (Derzhavin, 1913); *Exacanthomysis* for *A. davisii* Banner, 1948 and *A. alaskensis* Banner, 1954; *Holmesimysis* for *A. costata* (Holmes, 1900), *A. nuda* Banner, 1948, and *A. sculpta* (W. M. Tattersall, 1933); *Pacifacanthomysis* for *A. nephrophthalma* Banner, 1948; and *Xenacanthomysis* for *A. pseudomacropsis* (W. M. Tattersall, 1933). Furthermore, based on the literature, Holmquist (1981b) transferred *A. schrencki* (Czerniavsky, 1882) to *Pacifacanthomysis* and she reinstated *Orientomysis* Derzhavin, 1913 for *A. mitsukurii* (Nakazawa, 1910), *A. japonica* (Marukawa, 1928), and *A. nakazatoi* Ii, 1964. However, she could not revise the remaining “*Acanthomysis*” species (*Acanthomysis* s. l. species), which are distributed mainly in coastal waters of the Indian and Pacific Oceans, because she could not obtain specimens of them. As far as we can determine, 35 species are known in *Acanthomysis* s. l.

During an ongoing revisionary study of *Acanthomysis* s. l. in the Indo-Pacific region, we found that this taxon can be divided into several genera. In this paper,

we confirm the generic assignment of *Acanthomysis quadrispinosa* Nouvel, 1965 to the genus *Acanthomysis* s. s. based on the comparison with the previous description and the specimens of *A. longicornis*, and establish a new genus, *Notacanthomysis*, to accommodate *Acanthomysis hodgarti* (W. M. Tattersall, 1922) and *A. laticauda* Liu and Wang, 1980.

The body length was measured from the tip of the rostrum to the distal end of the telson excluding spines. The specimens examined in this study are deposited in the National Science Museum, Tokyo (NSMT) and the Natural History Museum and Institute, Chiba (CBM).

Family **Mysidae**  
Subfamily **Mysinae**  
Tribe **Mysini**  
Genus ***Acanthomysis*** Czerniavsky, 1882

*Acanthomysis* Czerniavsky, 1882: 134, 135; Holmquist 1981b: 409.

**Diagnosis.** Rostrum short, triangular. Anterolateral corner of carapace rounded; posterior margin of carapace emarginate. Antennal scale lanceolate with rounded apex, all margins setose, apical suture present. Labrum with long and acute anterior spiniform process. Third to eighth thoracic endopods with carpopropodus divided into 3 subsegments. Penis armed with several short setae on posterior margin, several inwardly curved setae on apical margin, and several long, plumose setae near apex of anterior margin. Female with rudimentary oostegite on sixth thoracic limb and ordinary oostegites on seventh and eighth limbs; oostegite on seventh limb with bailing lobe. First to third and fifth pleopods of male and all pleopods of female uniramous, unsegmented, increasing in length posteriorly; fifth pleopod of both sexes considerably long and slender. Pseudo-branchial lobe of pleopods developed. Fourth pleopod of male biramous; endopod reduced to unsegmented lobe; exopod developed, slender, extending to or near posterior margin of last abdominal somite, 2-segmented, proximal segment long, with seta at each distal corner, distal segment short, with or without short seta at each distal corner and with 2 moderately long, strong, unequal terminal setae, distal part of terminal setae slender, naked, and spiniform. Endopod of uropod with 1-6 spines in ventral statocyst region. Telson linguiform with dilated basal part and rounded apex, lateral margin naked in proximal third except for 2 spines in dilated part, distal two-thirds of lateral margin and apex armed densely with spines.

**Type species.** *Mysis longicornis* H. Milne-Edwards, 1837.

**Other species.** *Acanthomysis indica* (W. M. Tattersall, 1922), *Acanthomysis platycauda* (Pillai, 1964), *Acanthomysis pelagica* (Pillai, 1957), *Acanthomysis quadrispinosa* Nouvel, 1965, and *Acanthomysis trophopristes* O. S. Tattersall, 1957.

**Remarks.** Holmquist (1981b) included these six species in the revised *Acanthomysis*, although her tentatively judgements about the systematic position of the five species besides the type species were based on the literature (her abstract noted that “ the genus *Acanthomysis* is ratified and includes *A. longicornis* Milne Edwards as type-species, most probably the species *Neomysis indica* W. M. Tattersall, 1922, *A. quadrispinosa* Nouvel, 1965, *A. trophopristes* O. S. Tattersall, 1957, and possibly the species *Neomysis pelagica* Pillai, 1957, and *Lycomysis platycauda* Pillai,

1961.”). The present observations of *A. quadrispinosa* confirm that this species is assignable to *Acanthomysis* with confidence.

The generic diagnosis above is slightly modified from that previously given by Holmquist (1981b) in three respects: the deletion of a reference to characters of the integument; the addition of a character related to the penis; and a change in the description of the seventh pair of female oostegites.

***Acanthomysis longicornis*** (H. Milne-Edwards, 1837)  
(Fig. 1A-E)

*Mysis longicornis* H. Milne-Edwards, 1837: 457; Heller 1863: 302; G. O. Sars 1877: 30.  
*Acanthomysis longicornis*: Czerniavsky 1887: 75; Ii 1936: 588 (list); W. M. Tattersall 1951: 218; W. M. Tattersall and O. S. Tattersall 1951: 410-413, figs 111, 112; Gordan 1957: 337 (list); Mauchline and Murano 1977: 44 (list); Müller 1993: 194 (list).  
*Acanthomysis spinosissima* Czerniavsky, 1882: 135; 1887: 76.  
*Acanthomysis platydens* Czerniavsky, 1887: 76.  
*Dasymysis longicornis*: Holt and Beaumont 1900: 246, 247; Holt and W. M. Tattersall 1906: 44; Zimmer 1909: 164-166, figs 361-367.  
*Neomysis longicornis*: Zimmer 1915: 214; W. M. Tattersall 1927: 190, 191; Colosi 1929: 434; Illig 1930: 597 (key).  
*Neomysis (Acanthomysis) longicornis*: Bacescu 1941: 28; Nouvel 1950: 3 (list).

**Material examined.** 8 males (5.0-5.8 mm), 16 females (5.0-5.8 mm), 3 immature females (3.8-5.2 mm), and 1 juvenile (3.8 mm); CBM-ZC 4938 (1 male and 1 female); Fiesa (45°33'N, 13°35'E), Bay of Strunjan, Istra, Adria, 18-20 m, muddy bottom, 13 Dec. 1974, presented by K. Wittmann.

**Body length.** 5-9 mm.

**Habitat.** Estuarine and coastal waters.

**Geographical distribution.** Known from the Mediterranean Sea, Western Europe (reviewed by W. M. Tattersall and O. S. Tattersall 1951), and the Suez Canal (W. M. Tattersall 1927).

***Acanthomysis quadrispinosa*** Nouvel, 1965  
(Fig. 1F-O)

*Acanthomysis quadrispinosa* Nouvel, 1965: 456-464, figs 23-40 (type locality: Nosy Bé, Madagascar); Mauchline and Murano 1977: 45 (list); Liu and Wang 1986: 191, 192, fig. 17; Murano 1991: 89-91, fig. 5; Müller 1993: 187 (list); Wang and Liu 1997: 216.

**Material examined.** 1 male (8.2 mm) and 1 female (9.0 mm); NSMT-Cr 12507; South China Sea (22°15.5'N, 115°28.6'E), 55 m, beam trawl, 18 Mar. 1973, presented by M. Horikoshi. 12 males (6.5-8.2 mm), 6 females (6.1-7.7 mm) and 1 immature female (4.6 mm); CBM-ZC 4939 (1 male and 1 female); off Matoshima, Shimane Prefecture, Japan, 50 m, trawl net, 29 Oct. 1996, presented by K. Sota. 1 female (8.2 mm); NSMT-Cr 12508; Enshu-nada (34°23.4'N, 137°02.9'E), 55.7 m, sledge net, 13 June 1996,

during cruise of TR/V "Seiyo-Maru". 4 males (5.6-7.0 mm), 2 immature males (4.2 and 4.6 mm) and 2 females (6.0 and 6.4 mm); NSMT-Cr 12509; Kii Channel (34°07.11'N, 134°58.00'E), 74 m, sledge net, 15 June 1997, during cruise of TR/V "Seiyo-Maru". 4 males (5.2-5.6 mm), 2 immature males (4.0 and 4.4 mm), 2 females (6.1 and 6.4 mm), 1 immature female (4.0 mm) and 2 juveniles (3.4 and 3.7 mm); NSMT-Cr 12510; Kii Channel (34°02.16'N, 134°57.94'E), 73 m, sledge net, 15 June 1997, during cruise of TR/V "Seiyo-Maru". 1 male (6.2 mm) and 2 females (6.0 and 7.0 mm); NSMT-Cr 12511; Osaka Bay (34°24.70'N, 135°04.83'E), 40 m, sledge net, 16 June 1997, during cruise of TR/V "Seiyo-Maru".

**Body length.** 6.5-9.0 mm.

**Supplemental description.** Penis twice as long as broad in lateral view, armed with 1 long, stout, plumose seta near apex of anterior margin, 2 long, inwardly curved setae on apical margin, and 3 short, plumose setae on posterior margin (Fig. 1G).

All pleopods of female and first to third and fifth pleopods of male uniramous, unsegmented, gradually increasing in size posteriorly; fifth pleopod of both sexes slender, 1.5-1.7 times longer than third; pseudobranchial lobe developed (Fig. 1H-J, M). Fourth pleopod of male biramous; endopod short, unsegmented; exopod elongate, extending to middle of last abdominal somite, 2-segmented, proximal segment 2.3 times longer than endopod, armed with 1 short seta at inner distal corner and 1 moderately long seta at outer distal corner, distal segment one-ninth length of proximal segment, armed with 1 short seta at each distal corner and 2 long, stout, barbed, unequal terminal setae, apical portion of long setae slender, naked, spiniform (Fig. 1K, L).

**Remarks.** *Acanthomysis quadrispinosa* was originally described by Nouvel (1965) from Nosy Bé, Madagascar, and later it was recorded from Chinese coasts of the South China Sea (Liu and Wang 1986; Wang and Liu 1997) and from Japanese waters (Murano 1991).

This species agrees well with the generic diagnosis of *Acanthomysis* by Holmquist (1981b). In a few character states this species differs from Holmquist's diagnosis, and thus the generic diagnosis is emended.

*Acanthomysis quadrispinosa* is easily distinguishable from *A. longicornis* by the second segment of the mandibular palp being serrated along the inner margin (Fig. 1A, F) and by the telson having long and stout apical spines (Fig. 1E, N). *Acanthomysis trophopristes*, *Lycomysis spinicauda* Hansen, 1910 and *L. platycauda* Pillai, 1961 are closely allied to *A. quadrispinosa* in the serration on the second segment of the mandibular palp and the shape of the telson. However, *A. quadrispinosa* is distinguished from *A. trophopristes* and *L. platycauda* by the arrangement of the marginal spines of the telson, and from *L. spinicauda* and *L. platycauda* by the number of segments forming the exopod of the male fourth pleopod, two segments in *A. quadrispinosa* as compared with three in *L. spinicauda* and *L. platycauda*.

Liu and Wang (1986) noted that the serration of the second segment of the mandibular palp was more acute in specimens from the South China Sea than in the original description by Nouvel (1965). In the present specimens this feature is similar to those from the South China Sea (Fig. 1F).

Nouvel (1965) noted a sexual dimorphism in the apical strong spines of the telson, which are conical with acute tips in males while slightly flattened with rounded tips in females. In the Japanese specimens, such dimorphism has not

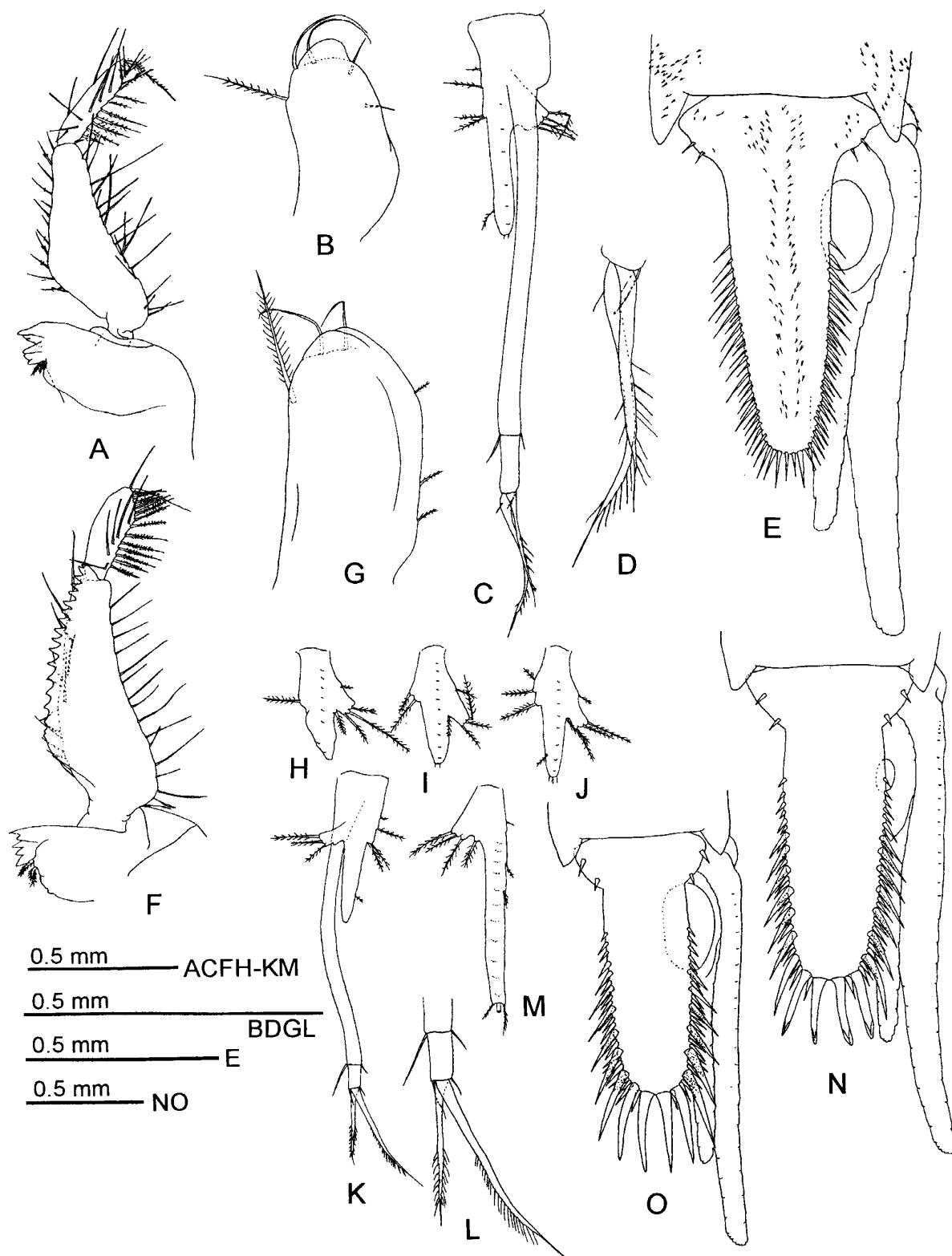


Fig. 1. *Acanthomysis longicornis* (H. Milne-Edwards, 1837), CBM-ZC 4938; A-E, male; *Acanthomysis quadrispinosa* Nouvel, 1965, CBM-ZC 4939; F-N, male; O, female. A, mandible; B, penis, lateral view; C, fourth pleopod; D, distal part of exopod of fourth pleopod; E, telson and uropod, dorsal view; F, mandible; G, penis, lateral view; H-K, first to fourth pleopods; L, distal part of exopod of fourth pleopod; M, fifth pleopod; N, O, telson and uropod, dorsal view.

been observed. These spines are slightly flattened with obtuse tip in both sexes (Fig. 1N, O).

**Habitat.** Coastal waters, 40-74 m deep in Murano (1991) and the present study, 8-76 m deep in Liu and Wang (1986), and 131 m deep in Wang and Liu (1997).

**Geographical distribution.** This species has been recorded from northern Madagascar (Nouvel 1965), the northern South China Sea (Liu and Wang 1986; Wang and Liu 1997), and Japan (Murano 1991; present study).

In Japanese waters, this species had been recorded from Shijiki Bay, Ariake Bay, and Omura Bay (Murano 1991). The present study further records it from off Shimane Prefecture, and in the Enshu-nada, Kii Channel, and Osaka Bay. The present occurrence off Shimane is the first record of the species in the Sea of Japan.

### Genus *Notacanthomysis* gen. nov.

**Diagnosis.** Carapace produced anteriorly into short, triangular rostral plate; anterolateral corner rounded; posterior margin emarginate. Antennal scale lanceolate with rounded apex, all margins setose, apical suture present. Antennal sympod with spine-like process at outer distal angle. Labrum with long, acute frontal process. Third to eighth thoracic endopods with carpopropodus divided into 4 or 5 subsegments. Thoracic exopods with flagellum 8-segmented in first and eighth limbs and 9-segmented in second to seventh limbs. Penis armed with several long and short setae on posterior margin, several inwardly curved setae on apical margin, and several long plumose setae near apex of anterior margin. Marsupium composed of 2 pairs of ordinary oostegites; oostegite on seventh limb with bailing lobe. First to third and fifth pleopods of male and all pleopods of female uniramous, unsegmented, gradually increasing in length posteriorly; pseudobranchial lobe poorly developed. Fourth pleopod of male biramous; endopod unsegmented, short; exopod 2-segmented, proximal segment long, distal segment short and its 2 terminal setae considerably different in size, longer seta stout and more than 3 times as long as shorter. Endopod of uropod with single spine on ventral surface of statocyst region. Telson elongate-triangular with rounded or truncate apex, lateral margin naked in proximal third, remainder armed with spines gradually increasing in length posteriorly.

**Type species.** *Neomysis hodgarti* W. M. Tattersall, 1922.

**Other species.** *Notacanthomysis laticauda* (Liu and Wang, 1980) comb. nov.

**Etymology.** The generic name is derived from the Greek *notios*, southern, in reference to the geographical distribution, and *Acanthomysis*. Gender is feminine.

**Remarks.** The genus *Notacanthomysis* clearly differs from the genus *Acanthomysis* in the following characters: (1) the carpopropodus of the third to eighth thoracic endopods is divided into four or five subsegments in *Notacanthomysis*, but only three in *Acanthomysis*; (2) the proximal lobes of all the pleopods in both sexes, except the fourth pleopod of the male, are less developed in *Notacanthomysis* than in *Acanthomysis*; (3) in *Notacanthomysis*, the two terminal setae of the exopod of the male fourth pleopod are remarkably different in length (longer seta stouter and more than three times as long as shorter one) and gradually narrowing towards the tip, while in *Acanthomysis* they are not only less unequal in length (longer seta

about one and half times as long as shorter one) but subequal in diameter, and they become abruptly more slender in the terminal portion, which is unarmed and spiniform; and (4) the lateral margin of the telson is unarmed in the proximal third in *Notacanthomysis*, while it is armed with a few spines on the dilated basal region in *Acanthomysis*. The genus *Notacanthomysis* is also distinctly different from the remaining species of the genus *Acanthomysis* s. l. and all derived genera from *Acanthomysis* in the nature of the pleopods and telson.

***Notacanthomysis hodgarti*** (W. M. Tattersall, 1922) comb. nov.  
(Fig. 2)

*Neomysis hodgarti* W. M. Tattersall, 1922: 486, 487, fig. 21 (type locality: mouth of Rajang River, Sarawak, Borneo Island); Illig 1930: 597 (key); W. M. Tattersall 1932: 317 (key); Stammer 1936: 68; Gordan 1957: 367 (list).

*Acanthomysis hodgarti*: Ii 1936: 589 (list); Banner 1948: 86 (key); O. S. Tattersall 1960: 180; Ii 1964: 472, 473 (only remarks); O. S. Tattersall 1965: 92; Mauchline and Murano 1977: 44 (list); Murano 1986: 298-300, fig. 3; Müller 1993: 192 (list).

**Material examined.** 8 males (6.8-8.6 mm) and 21 females (6.8-7.4 mm); CBM-ZC 4940 (1 male and 1 female); Chachoengsao, Thailand, 5 Apr. 1979, presented by S. Chaitiamvong. Many males and females (damaged); Bang Pakong River, Chachoengsao, Thailand, 14 May 1981, presented by S. Chaitiamvong.

**Body length.** 5.5-8.6 mm.

**Description.** Body rather robust; integument smooth. All thoracic somites without sternal process.

Carapace anteriorly produced into short triangular rostral plate with rounded apex extending to base of antennular peduncle, lateral margin of rostrum slightly concave; anterolateral corner of carapace rounded; posterior margin of carapace smooth, emarginate, leaving last two thoracic somites exposed dorsally (Fig. 2A).

Eye somewhat compressed dorsoventrally, 1.2 times as long as broad; cornea occupying two-fifths of whole organ in dorsal view; eyestalk armed with minute setae and with small, blunt papilla on dorsal surface (Fig. 2A).

Antennular peduncle of male more robust than that of female, third segment almost as long as proximal two segments combined, 1.4 times as long as broad; in female third segment slightly shorter than first and second segments combined, 1.7 times as long as broad (Fig. 2A).

Antennal scale lanceolate with rounded apex, slightly overreaching distal end of antennular peduncle but not extending to apex of appendix masculinus in male, 1.3 times as long as antennular peduncle in female, about 5.4 times as long as broad, setose throughout margins, apical suture present (Fig. 2B). Antennal peduncle of male more robust than that of female, extending to distal one-fourth of scale, third segment slightly shorter than second (Fig. 2B); in female extending to distal two-fifths of scale, third segment slightly shorter than second. Antennal sympod with spine-like process at outer distal angle (Fig. 2B).

Labrum with long, spine-like anterior process. Mandibular palp with second segment expanded inwardly in posterior third, about 2.7 times as long as broad, third segment about half of second in length (Fig. 2C). Maxillule with outer lobe

armed with 11 or 12 stout spines on distal margin and with 3 setae on surface, with swelling on middle of outer margin. Maxilla with exopod not reaching anterior margin of first segment of endopod, armed with plumose setae on outer and apical margins; endopod with second segment 1.6 times as long as broad, without spines on outer margin.

First thoracic endopod short and robust; preischium, ischium, and merus slightly expanded inwardly. Second thoracic endopod rather slender. Third to eighth thoracic endopods slender, with carpopropodus divided into 5 subsegments, dactylus small with slender terminal claw (Fig. 2D). Thoracic exopods with flagellum 8-segmented in first and eighth limbs and 9-segmented in second to seventh limbs; basal plate armed with 1-3 spinules at outer distal corner.

Penis twice as long as broad in lateral view, armed with 2-4 long, naked setae and 3 or 4 short, plumose setae on posterior margin, 4 inwardly curved setae on apical margin, and 3 long plumose setae on distal half of anterior margin (Fig. 2E).

Female with tuft of setae on coxae of fourth to sixth thoracic limbs. Marsupium composed of 2 pairs of ordinary oostegites, oostegite of seventh limb with bailing lobe.

All abdominal somites lacking folds or spine rows; first to fifth somites subequal in length, sixth somite 1.3 times as long as fifth somite.

All pleopods of both sexes except fourth pleopod of male uniramous, unsegmented, gradually increasing in size posteriorly; fifth pleopod 1.9 times as long as third; pseudobranchial lobe poorly developed (Fig. 2F-H, J). Fourth pleopod of male biramous. Endopod of fourth pleopod short, unsegmented. Exopod of fourth pleopod elongate, extending to near posterior margin of last abdominal somite, 2-segmented; proximal segment 1.9 times longer than endopod, armed with 1 tiny seta at each distal corner; distal segment one-fourth length of proximal segment, armed with 1 tiny seta on each distal corner and 2 long terminal setae, latter setae considerably unequal in length, shorter one only slightly shorter than distal segment, longer one very stout, 3.2 times as long as distal segment and 3.4 times longer than shorter one (Fig. 2I, K).

Endopod of uropod extending slightly beyond tip of apical spines of telson, armed with single slender spine on inner ventral surface of statocyst region (Fig. 2L, M); exopod 1.3 times longer than endopod (Fig. 2M).

Telson elongate-triangular with rather broadly rounded apex, 1.3 times as long as last abdominal somite, 2-2.2 times longer than breadth at base; lateral margin slightly concave in proximal half and straight in distal half, naked in proximal third, then armed with 25-35 spines gradually increasing in size apically; apical margin with 2 pairs of long, stout, subequal spines, one-seventh of telson length in male and one-sixth in female, and about twice as long as apical-most lateral spine (Fig. 2M).

**Remarks.** Murano (1986) noted slight differences in the rostrum, antennal scale, and telson between the original description and specimens from Thailand. He noted that there were 33 to 35 marginal spines on the telson in Thai specimens against 25 to 28 in specimens from Borneo. In the present specimens from Thailand the number has been found to vary from 25 to 35 in adults. In other characters, the present material closely agrees with the original description and Murano's (1986) observations.

**Habitat.** Estuarine and coastal waters.



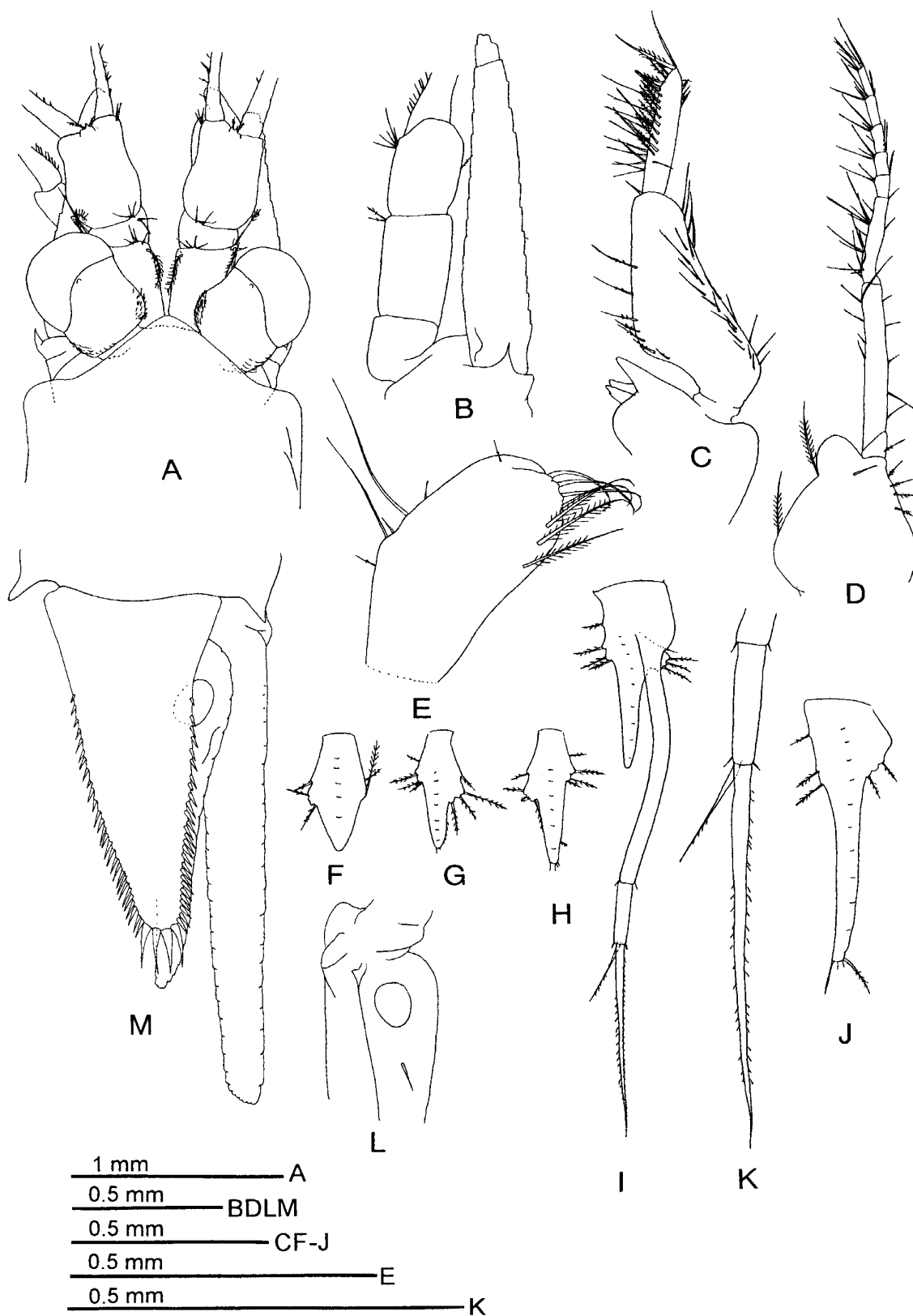


Fig. 2. *Notacanthomysis hodgarti* (W. M. Tattersall, 1922) comb. nov., CBM-ZC 4940; A-M, male. A, anterior part of body, dorsal view; B, antenna; C, mandible; D, seventh thoracic endopod; E, penis, lateral view; F-J, first to fifth pleopods; K, distal part of exopod of fourth pleopod; L, proximal part of uropod, ventral view; M, telson and uropod, dorsal view.

**Geographical distribution.** This species has been known from Sarawak, Borneo (W. M. Tattersall 1922), the Singapore Strait (O. S. Tattersall 1960), the Strait of Malacca (O. S. Tattersall 1965), and the Gulf of Thailand (Murano 1986).

*Notacanthomysis laticauda* (Liu and Wang, 1980) comb. nov.  
(Fig. 3)

*Acanthomysis laticauda* Liu and Wang, 1980: 320-322, fig. 1 (type locality: South China Sea, 22°00'N, 113°30'E); 1986: 195; Müller 1993: 193, 194 (list); Wang and Liu 1997: 215.

**Type material.** The holotype and paratypes are deposited in the Institute of Oceanology, Academia Sinica, People's Republic of China.

**Material examined.** 7 males (4.6-6.8 mm), 14 females (4.9-6.4 mm) and abundant immature males and females (3.6-4.5 mm); CBM-ZC 4941 (1 male and 1 female); northern South China Sea (22°15.3'N, 115°28.2'E to 22°15.7'N, 115°28.9'E), 55 m, 18 Mar. 1973, presented by M. Horikoshi. 1 immature male (3.8 mm) and 3 females (5.4, 6.1 mm, and damaged); NSMT-Cr 12512; Bangladesh, date unknown, presented by N. Mahmood. 1 male (5.5 mm) and 1 female (6.0 mm); South China Sea, National Comprehensive Oceanographic Survey St. 6179 (20°30'N, 109°45'E) of Institute of Oceanology, People's Republic of China, 15 m, soft mud bottom, 17 July 1960, collected by R. Liu and S. Wang.

**Body length.** 6.4-8.0 mm.

**Description.** Body slender; integument hispid. All thoracic somites without sternal process.

Carapace anteriorly produced into short, triangular rostral plate with rounded apex extending to base of antennular peduncle, lateral margin of rostrum straight or concave; anterolateral corner rounded; posterior margin smooth, emarginate, leaving last one or two thoracic somites exposed dorsally (Fig. 3A).

Eye slightly compressed dorsoventrally, 1.2 times as long as broad; cornea occupying two-fifths to half of whole eye in dorsal view; eyestalk hispid, with small, blunt papilla on dorsal surface (Fig. 3A).

Antennular peduncle of male more robust than that of female, first segment 1.3 times as long as broad, third segment almost as long as first and second segments combined, 1.6 times as long as broad (Fig. 3A); in female third segment as long as preceding two segments combined, 1.7 times as long as broad.

Antennal scale lanceolate with rounded apex, extending to distal margin of antennular peduncle in male and beyond it in female, 5-5.3 times as long as broad, all margins setose, apical suture present (Fig. 3B). Antennal peduncle extending to distal fifth of scale in male and about distal two-thirds in female, third segment slightly shorter than second in male and four-fifths as long in female (Fig. 3B). Antennal sympod with spine-like process at outer distal angle (Fig. 3B).

Labrum with long, spine-like anterior process. Mandibular palp with second segment expanded medially in posterior third, about 2.5 times as long as broad, third segment half as long as second. Maxillule with outer lobe armed with 14 stout spines on distal margin, 3 setae on surface, and hump-like process in middle of outer margin. Maxilla with exopod extending slightly beyond distal margin of

proximal segment of endopod, armed with plumose setae on outer and apical margins; endopod with second segment about 1.6 times as long as broad, without spines on outer margin.

First thoracic endopod short, robust, with preischium, ischium, and merus expanded medially. Second thoracic endopod short, rather slender. Third to eighth thoracic endopods slender, carpopropodus divided into 4 or 5 subsegments, dactylus small with slender claw terminally (Fig. 3C, D). Thoracic exopods with flagellum 8-segmented in first and eighth limbs, 9-segmented in second to seventh limbs; basal plate armed with 1 or 2 spinules at outer distal corner, outer margin hispid (Fig. 3D).

Penis twice as long as broad in lateral view, armed with 9 long and short setae on posterior margin, 1 inwardly curved seta on apical margin, and 1 long seta near apex of anterior margin (Fig. 3E).

Female with hair tuft on coxae of third to sixth thoracic limbs and ordinary oostegites on seventh and eighth limbs; oostegite of seventh limb with bailing lobe.

All abdominal somites lacking folds or spine rows; first to fourth somites subequal in length, fifth somite 1.3 times as long as fourth, sixth somite 1.3 times as long as fifth.

First to third and fifth pleopods of male and all pleopods of female reduced to unsegmented single lobe, gradually increasing in size posteriorly; fifth pleopod of both sexes 1.8 times as long as third; pseudobranchial lobe poorly developed (Fig. 3F-H, J, L-N). Fourth pleopod of male biramous. Endopod of fourth pleopod short, unsegmented. Exopod of fourth pleopod extending beyond posterior third of last abdominal somite, 2-segmented; proximal segment 2.3 times longer than endopod, armed with tiny seta at each distal corner; distal segment slightly less than one-third length of proximal segment, armed with 1 tiny seta at outer distal corner and 2 long terminal setae that are considerably unequal in length, shorter seta about four-fifths length of distal segment, longer seta stout, 2.5 times as long as distal segment and 3.5 times as long as shorter one (Fig. 3I, K).

Endopod of uropod 1.2-1.3 times as long as telson, armed with single slender spine on inner ventral surface of statocyst region; exopod 1.1-1.2 times longer than endopod (Fig. 3O, P).

Telson truncate, 1.4 times as long as last abdominal somite, about twice as long as broad at base; proximal two-fifths of lateral margin naked, remaining part of lateral margin armed with about 20 spines gradually increasing in size apically; apical margin one-third to two-fifths as broad as at base, armed with 2 pairs of long, stout, subequal spines, these being one-fifth as long as telson in male and one-fourth as long in female (Fig. 3O, P).

**Remarks.** The present specimens agree well with the original description.

*Notacanthomysis laticauda* is distinguished from the only other species of this genus, *N. hodgarti*, by the following points: (1) the integument is hispid, while smooth in the latter; (2) the apical margin of the telson is wider than in the latter species.

**Habitat.** Coastal waters. 6-219 m deep (Liu and Wang 1980; Wang and Liu 1997; present study).

**Geographical distribution.** This species has been recorded from the northern South China Sea (Liu and Wang 1980; present study), western East China Sea (Liu and Wang 1980; Wang and Liu 1997), and Bangladesh (present study). The

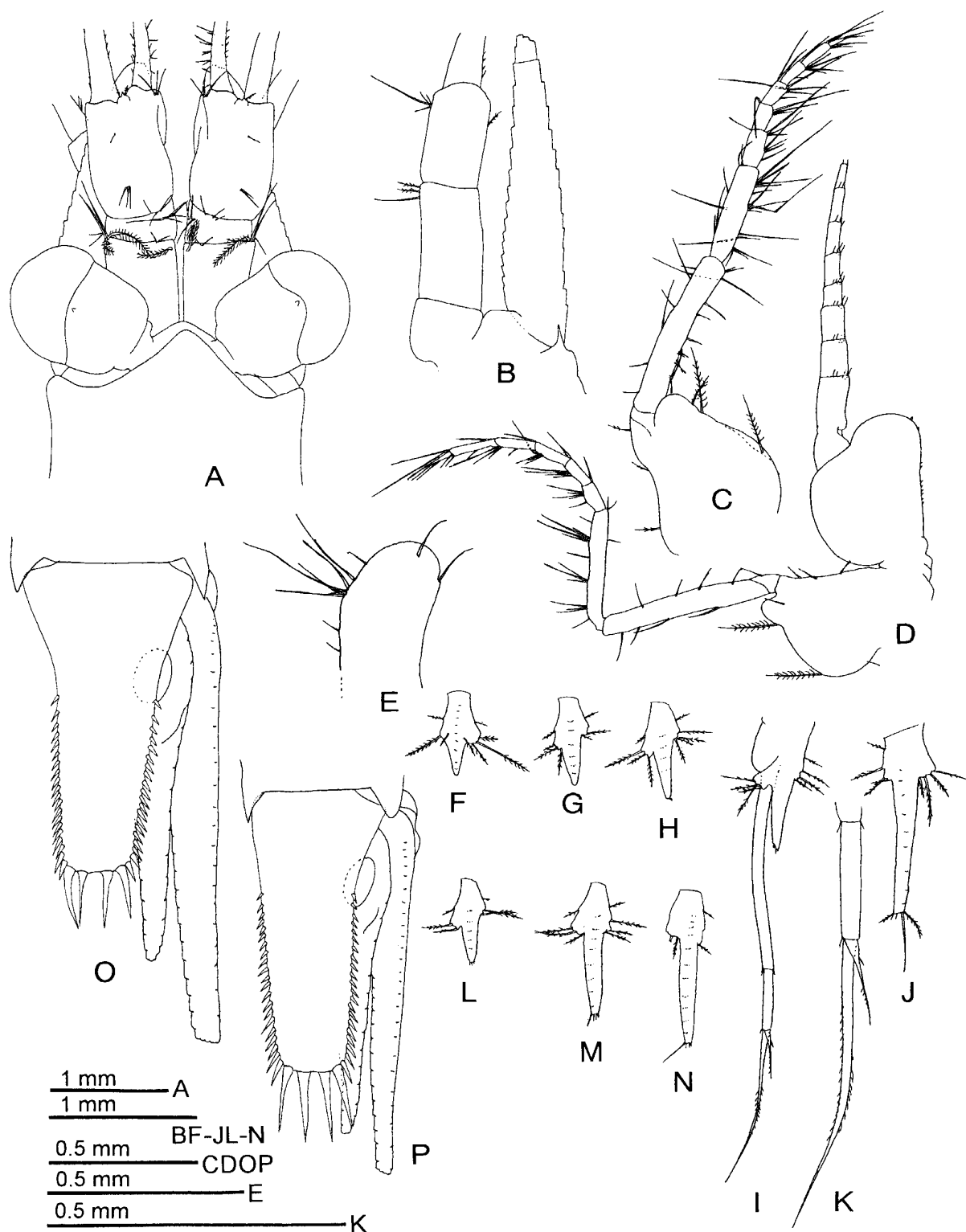


Fig. 3. *Notacanthomysis laticauda* (Liu and Wang, 1980) comb. nov., CBM-ZC 4941; A-K, O, male; L-N, P, female. A, anterior part of body, dorsal view; B, antenna; C, third thoracic endopod; D, eighth thoracic limb; E, penis, lateral view; F-J, first to fifth pleopods; K, distal part of exopod of fourth pleopod; L-N, third to fifth pleopods; O, P, telson and uropod, dorsal view.

present material from Bangladesh represents the first record of this species in the Indian Ocean.

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### References

- Bacescu, M. 1941. Les Mysidacés des eaux méditerranéennes de la France (spécialement de Banyuls) et des eaux de Monaco. *Bulletin de l'Institut Océanographique* 795: 1-46.
- Banner, A. H. 1948. A taxonomic study of the Mysidacea and Euphausiacea (Crustacea) of the northeastern Pacific. Part II. Mysidacea, from tribe Mysini through subfamily Mysidellinae. *Transactions of the Royal Canadian Institute* 26: 65-125.
- Colosi, G. 1929. I Misidacei del Golfo di Napoli. *Pubblicazioni della Stazione Zoologica di Napoli* 9: 405-441.
- Czerniavsky, V. 1882. *Monographia Mysidarum inprimis Imperii Rossici*. Fasc. 1. *Trudy Sankt-Peterburgskago Obschestva Estestvoispytatelei* 12: 1-170.
- Czerniavsky, V. 1887. *Monographia Mysidarum inprimis Imperii Rossici*. Fasc. 3. *Trudy Sankt-Peterburgskago Obschestvo Estestvoispytatelei* 18: 1-102.
- Gordan, J. 1957. A bibliography of the order Mysidacea. *Bulletin of the American Museum of Natural History* 112: 283-393.
- Heller, C. 1863. Mysis. Pp. 301-304. *In: Die Crustaceen des südlichen Europa. Crustacea Podophthalmina*. Wilhelm Braumüller, Wien, 336pp. (not seen)
- Holmquist, C. 1979. *Mysis costata* Holmes, 1900, and its relations (Crustacea, Mysidacea). *Zoologische Jahrbücher, Abteilung für Systematik, Ökologie, und Geographie der Tiere* 106: 471-499.
- Holmquist, C. 1980. *Xenacanthomysis*—a new genus for the species known as *Acanthomysis pseudomacropsis* (W. M. Tattersall, 1933) (Crustacea, Mysidacea). *Zoologische Jahrbücher, Abteilung für Systematik, Ökologie, und Geographie der Tiere* 107: 501-510.
- Holmquist, C. 1981a. *Exacanthomysis* gen. nov., another detachment from the genus *Acanthomysis* Czerniavsky (Crustacea, Mysidacea). *Zoologische Jahrbücher, Abteilung für Systematik, Ökologie, und Geographie der Tiere* 108: 247-263.
- Holmquist, C. 1981b. The genus *Acanthomysis* Czerniavsky, 1882 (Crustacea, Mysidacea). *Zoologische Jahrbücher, Abteilung für Systematik, Ökologie, und Geographie der Tiere* 108: 386-415.

- Holt, E. W. L. and Beaumont, W. I. 1900. Survey of fishing grounds, west coast of Ireland, 1890-1891: X. Report on the Crustacea Schizopoda of Ireland. Scientific Transactions of the Royal Dublin Society (Series II) 7: 221-252.
- Holt, E. W. L. and Tattersall, W. M. 1906. Schizopodous Crustacea from the north-east Atlantic slope. Supplement. Scientific Investigations of the Fishery Board for Ireland 1904 5: 3-50.
- Ii, N. 1936. Studies on Japanese Mysidacea I. Descriptions of new and some already known species belonging to the genera, *Neomysis*, *Acanthomysis* and *Proneomysis*. Japanese Journal of Zoology 6: 577-619.
- Ii, N. 1964. *Fauna Japonica, Mysidae (Crustacea)*. Biogeographical Society of Japan, Tokyo, 610pp.
- Illig, G. 1930. Die Schizopoden der Deutschen Tiefsee-Expedition. Deutschen Tiefsee-Expedition 1898-1899 22: 400-625.
- Liu, R. and Wang, S. 1980. Five new species of the genus *Acanthomysis* (Crustacea Mysidacea) from the South China Sea. Oceanologia et Limnologia Sinica 11: 320-334. [In Chinese with English abstract and description]
- Liu, R. and Wang, S. 1986. Studies on Mysinae (Crustacea Mysidacea) of the northern South China Sea. Studia Marina Sinica 26: 159-202. [In Chinese with English abstract and description]
- Mauchline, J. and Murano, M. 1977. World list of Mysidacea, Crustacea. Journal of the Tokyo University of Fisheries 64: 39-88.
- Milne-Edwards, H. 1837. *Histoire naturelle des Crustacés*. 2, Librairie Encyclopédique de Roret, Paris, 531 pp. (not seen)
- Müller, H.-G. 1993. *World Catalogue and Bibliography of the Recent Mysidacea*. Wissenschaftlicher Verlag, Tropical Products Trading Center, Germany, 491pp.
- Murano, M. 1986. Mysidacea from Thailand with description of two new species. Crustaceana 55: 293-305.
- Murano, M. 1991. Two new species of the tribe Mysini (Crustacea, Mysidacea) and a new record of *Acanthomysis quadrispinosa* from Japan. Bulletin of the National Science Museum, Tokyo, Series A (Zoology) 17: 81-91.
- Nouvel, H. 1950. Mysidacea. Conseil International pour l'Exploration de la Mer, Zooplankton 27: 1-4.
- Nouvel, H. 1965. Mysidacés récoltés par S. Frontier a Nosy-Bé II. Description de deux Mysini appartenant aux genres *Diamysis* et *Acanthomysis*. Bulletin de la Société d'Histoire Naturelle de Toulouse 100: 451-464.
- Sars, G. O. 1877. Nye Bidrag til Kundskaben om Middelhavets Invertebratfauna. I. Middelhavets Mysider. Archiv for Mathematik og Naturvidenskab 2: 10-119.
- Stammer, H. J. 1936. Ein neuer Höhlenschizopode, *Trogromysis vjetrenicensis* n. g. n. sp. Zoologische Jahrbücher, Abteilung für Systematik, Ökologie, und Geographie der Tiere 68: 53-104.
- Tattersall, O. S. 1960. Report on a small collection of Mysidacea from Singapore waters. Proceedings of the Zoological Society of London 135: 165-181.
- Tattersall, O. S. 1965. Report on a small collection of Mysidacea from the northern region of the Malacca Strait. Journal of Zoology 147: 75-98.
- Tattersall, W. M. 1922. Indian Mysidacea. Records of the Indian Museum 14: 445-504.
- Tattersall, W. M. 1927. Report of the Crustacea Mysidacea. In: *Zoological results of the Cambridge Expedition to the Suez Canal, 1924*. Transactions of the Zoological Society of London 22: 185-199.

- Tattersall, W. M. 1932. Contributions to a knowledge of the Mysidacea of California I. On a collection of Mysidae from La Jolla, California. University of California Publications in Zoology 37: 301-347.
- Tattersall, W. M. 1951. A review of the Mysidacea of the United States National Museum. Bulletin of the United States National Museum 201: 1-292.
- Tattersall, W. M. and Tattersall, O. S. 1951. *The British Mysidacea*. Ray Society Monograph 134, London, 460pp.
- Wang, S. and Liu, R. 1997. Mysidacea fauna of the East China Sea. Studia Marina Sinica 38: 191-222. [In Chinese with English abstract and description]
- Zimmer, C. 1909. Die nordischen Schizopoden. Pp. 1-178. *In*: Brandt, K. and Apstein, C. (Eds) *Nordisches Plankton*, 6. Lipsius und Tischler, Kiel und Leipzig.
- Zimmer, C. 1915. Die Systematik der Tribus Mysini H. J. Hansen. Zoologischen Anzeiger 46: 202-216.